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Lawrence Livermore National Laboratory Demonstrates Significant Progress in Ground Water Cleanup

UCRL-MI-135903

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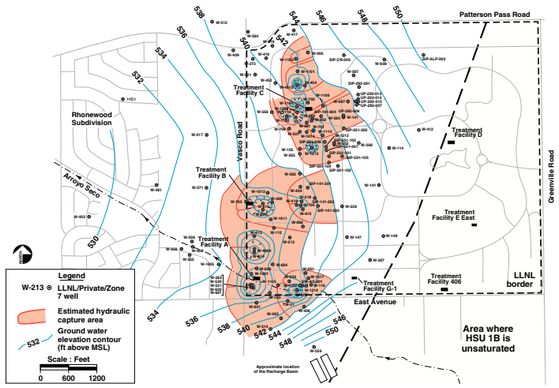
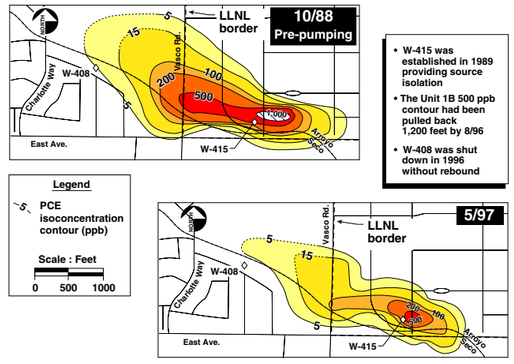
Extraction wells provide hydraulic capture of the western margin of the Livermore Site, as shown here for Hydrostratigraphic Unit 1B. Achieving western margin capture and reducing offsite VOC concentrations has been a high priority for DOE, LLNL, the regulatory agencies, and the community.

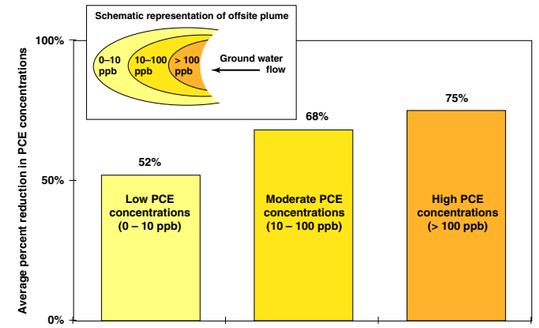


Ground water extraction in source areas, and in high concentration distal areas, hydraulically isolates the contaminant source and systematically collapses the plume. Since ground water extraction and treatment began at Treatment Facility A in 1989, the PCE 500 ppb contour in Hydrostratigraphic Unit 1B has been pulled back 1,200 ft.

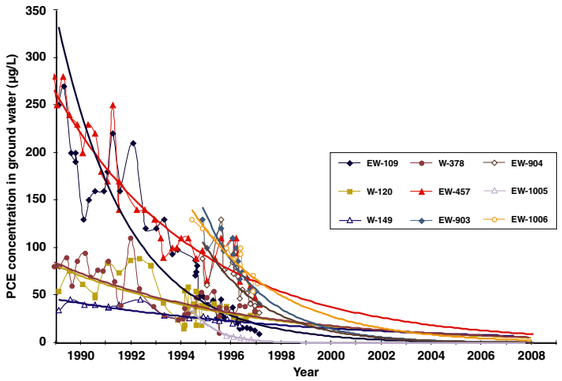


- W-415 was established in 1989 providing source isolation
- The Unit 1B 500 ppb contour had been pulled back 1,200 feet by 8/96
- W-408 was shut down in 1996 without rebound

Active wellfield management has reduced the average PCE concentration in the offsite plume at Treatment Facility A. Average initial PCE concentrations over 100 ppb have been reduced by 75%.



TFA offsite extraction and monitoring wells that contain moderate to high PCE concentrations have shown continual declining PCE concentrations since the initiation of ground water extraction and treatment in 1989. If PCE concentrations continue to decrease along the current trend, concentrations are anticipated to approach MCLs within the next decade.



The successful cleanup approach used at Treatment Facility A is also being used at other treatment facility areas throughout the Livermore Site to aggressively target individual contaminant plumes and to place extraction wells at optimum locations to meet cleanup objectives faster.

Treatment facility area	Number of extraction wells	Flow rate (gpm)	Mass removed (kg)
TFA	18	310	84.8
TFB	6	50	24.6
TFC	7	60	10.5
TFD	7	120	53.4
TFE	2	20	9.4
TF406	1	3	1.1
TFG	1	8	0.9
Total	*42*	*571*	*185*

Livermore Site Treatment Facility Performance:

- Through June 1997, about 407 lbs (185 kg) of VOCs have been removed from the ground water.
- About 25 million gallons of ground water is extracted and treated monthly.
- Over 450,000,000 gallons of ground water have been extracted and treated to date.
- Through June 1997, about 205 lbs (93 kg) of VOCs have been removed by soil vapor extraction.
- Over 67,000 lbs (30,000 kg) of fuel hydrocarbons have been removed from the ground water and soil, resulting in the regulatory agencies approving No Further Action for fuel hydrocarbon cleanup.